FDA Questions for the Circulatory System Devices Panel
September 9, 2002
P020004
W.L. Gore & Associates, Inc.
EXCLUDER™ Bifurcated Endoprosthesis

Safety

1. The primary safety endpoint of the clinical study was the rate of major complications as evaluated through 12 months. Additionally, data are presented for individual adverse events, analyses are provided for risk factors associated with adverse events, and causes of death are provided. A summary of the 24-month results is also included. Please comment on whether the results of the clinical study provide reasonable assurance of safety in the intended population.

Effectiveness

2. The primary effectiveness endpoint of the clinical study was exclusion of the infrarenal abdominal aortic aneurysm from the blood circulation, defined by absence of aneurysm enlargement and endoleaks, as evaluated through 12 months. Additionally, data regarding potential problems associated with endovascular treatment (e.g., migration, aneurysm enlargement, endoleaks, ruptures, conversion, device integrity) are presented. A summary of the 24-month results is also included. Please comment on whether the results of the clinical study provide reasonable assurance of effectiveness in the intended population.

Device Integrity

3. The Core Laboratory has reported two cases of wire-form fractures, one identified at discharge in a patient enrolled in the pivotal clinical study, and the other at 12 months in a patient enrolled in the ongoing second generation device study. There have been no adverse events associated with either report, and there is not conclusive evidence to verify the presence or absence of the fractures. Both reported fractures were identified in the main body of the graft, not in a seal zone or point of attachment to the aorta. After the panel packs were sent to the Panel, the sponsor reported a wire-form fracture which was recently identified during the sponsor's analysis of a device explanted in Germany. Details concerning the length of implantation, implanting physician identity, and device lot and serial numbers remain unavailable. Based on the sponsor's analysis it appears that the fracture, which was also located in the main body of the graft in the crotch of the bifurcation, did not result in any clinical complications as ends did not appear to be protruding through the device material or the surrounding tissue. Please comment on the significance of these observations.

Labeling

4. One aspect of the pre-market evaluation of a new product is the review of its labeling. The labeling must indicate which patients are appropriate for treatment, identify potential adverse events with the use of the device, and explain how the product should be used to maximize clinical benefit and minimize adverse events. If you recommend approval of the device, please address the following questions regarding product labeling.

    a. Does the INDICATION FOR USE, as stated below, adequately define the patient population studied, and for which the device will be marketed?

    The EXCLUDER Endoprosthesis is intended to exclude the aneurysm from the blood circulation in patients diagnosed with infrarenal AAA disease who have appropriate anatomy.

    As a point of reference, the indications for use of the approved endovascular grafts are attached as Appendix 1 to this document

    b. Based on the clinical investigation experience, are there any additional warnings, precautions, or contraindications that you think should be included, either specific to this device or from a generic standpoint for endovascular grafts? Please refer to Appendix 2 of this document.
    c. Please comment on whether the instructions for use adequately describe how the device is to be delivered.
    d. Do you have any other comments on the labeling?

Training

5. Please comment on the adequacy of the proposed physician training plan, as described in the panel package.

Post-Market Study

6. The sponsor is proposing to conduct a post-approval study on the patients enrolled in the pivotal clinical study (i.e., 235 test patients and 99 controls). Five-year follow-up on all patients who are alive and not withdrawn from the study will be obtained in accordance with the clinical protocol approved under the IDE for this device. Please comment on the acceptability of this plan, as briefly described in the panel package.

Appendix 1

Indications for Use for the Other Currently Approved Endovascular Grafts for Treatment of Abdominal Aortic Aneuryms

The ANCURE Tube System is indicated for the endovascular treatment of infrarenal abdominal aortic aneurysms (AAA) in patients having:

- adequate iliac/femoral access,
- infrarenal non-aneurysmal neck length of at least 15 mm and a diameter of no greater than 26 mm,
- distal segment neck length of 12 mm and diameter of no greater than 26 mm, and
- morphology suitable for endovascular repair.

The ANCURE Bifurcated System is indicated for the endovascular treatment of infrarenal abdominal aortic or aorto-iliac aneurysms in patients having:

- adequate iliac/femoral access,
- infrarenal non-aneurysmal neck length of at least 15 mm and a diameter of no greater than 26 mm,
- distal segment lengths of at least 20 mm and diameters no greater than 13.4 mm, and
- morphology suitable for endovascular repair.

The ANCURE Aortoiliac System is indicated for the endovascular treatment of infrarenal abdominal aortic or aorto-iliac aneurysms in patients whose anatomy does not allow the use of a tube or bifurcated device and having:

- adequate iliac/femoral access,
- infrarenal non-aneurysmal neck length of at least 15 mm and a diameter of no greater than 26 mm,
- one distal segment length of at least 20 mm and diameters no greater than 13.4 mm, and
- morphology suitable for endovascular repair.

The AneuRx Stent Graft System is indicated for the endovascular treatment of infrarenal abdominal aortic or aorto-iliac aneurysms having:

- adequate iliac/femoral access;
- infrarenal, non-aneurysmal, neck length of greater than 1 cm at the proximal and distal ends of the aneurysm and an inner vessel diameter 10-20% smaller than the labeled device diameter;
- morphology suitable for endovascular repair;
- one of the following:
  - aneurysm diameter > 5 cm;
  - aneurysm diameter of 4-5 cm and which has also increased in size by 0.5 cm in the last 6 months; or

    aneurysm which is twice the diameter of the normal infrarenal aorta.

Appendix 2
Contraindications, Warnings, and Precautions
Proposed by W.L. Gore & Associates, Inc.
for the EXCLUDER™ Bifurcated Endoprosthesis

Contraindications

Known contraindications include, but are not limited to:

- ?? Significant thrombus at the arterial implantation sites, specifically proximal aortic neck and distal iliac artery interface
- ?? Severe proximal aortic neck angulation >60°
- ?? Infrarenal aortic neck < 15mm in length
- ?? Ilio-femoral access vessel morphology which is not compatible with vascular access techniques, devices and accessories.

Warnings

- ?? Minimize handling of the constrained endoprosthesis during preparation and insertion to decrease the risk of endoprosthesis contamination and infection.
- ?? Do not advance the device outside the sheath.
- ?? Do not rotate the Trunk or the Contralateral Leg delivery catheter while the endoprosthesis is inside the introducer sheath. Catheter breakage or premature deployment may occur.
- ?? Do not rotate the Trunk delivery catheter beyond 360° to avoid delivery system damage and/or premature deployment.
- ?? Do not rotate the Contralateral Leg delivery catheter during delivery. Catheter breakage or premature deployment may occur.
- ?? Do not attempt to withdraw the undeployed endoprosthesis through the 18 Fr or 12 Fr introducer sheath valve. The sheath and catheter must be removed together.
- ?? Do not attempt to reposition the endoprosthesis after deployment has been initiated. Vessel damage or device misplacement may result.
- ?? Do not continue advancing any portion of the delivery system if resistance is felt during advancement of the guidewire, sheath, or catheter. Stop and assess the cause of resistance. Vessel or catheter damage may occur.
- ?? Incorrect deployment or migration of the endoprosthesis may require surgical intervention.
- ?? Do not cover significant renal or mesenteric arteries (exceptions are inferior mesenteric and ilio-femoral) with the endoprosthesis. Vessel occlusion may occur.
- ?? Do not use delivery catheter for high pressure fluid injections.

Precautions

- ?? Do not resterilize; for single use only.
- ?? Do not use if damaged or if sterile barrier has been compromised
- ?? Do not use after the “use by” (expiration) date printed on the label.